

WE CLAIM:

1. An apparatus for processing materials comprising
a linear processing path,
a first machine positioned along the processing path,
5 a second machine positioned along the processing path,
a pusher positioned along the processing path between the first and second
machines, and operable to feed materials, alternately, toward the first and second
machines.

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2. The apparatus of claim 1, wherein each machine is equipped with an
interlock device that prevents the machine from operating when the pusher is moving.

- 15 3. The apparatus of claim 1, wherein each machine having a controller
including a keypad for controlling operation of the respective machine with the pusher.

- 20 4. The apparatus of claim 1, wherein the pusher is operatively connected to at
least one computer, the computer being programmed to optimize cutting of stock to
satisfy a cut list.

5. The apparatus of claim 1, wherein at least one of the machines is a saw.

6. The apparatus of claim 1, wherein the machines are selected from the
5 following group: radial arm saw, sliding panel saw, upcut saw, tube cutting saw, boring
machine, punch press, vertical router, metal shear, horizontal mortiser, and tenoner.

7. A method of processing materials comprising
providing an apparatus including a pusher positioned between first and second
machines along a processing path, the pusher being operable to push work pieces
alternately in opposite directions toward both machines, the pusher being controlled by a
5 computer, an interlock being provided for each machine to prevent operation of the
respective machine when the pusher is moving,

selecting the first machine for use in conjunction with the pusher,

activating the interlock for the first machine,

placing a work piece on the processing path,

10 driving the pusher to push the work piece a calculated distance toward the first
machine,

stopping the pusher,

disengaging the interlock, and

operating the first machine to alter the work piece.

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8. The method of claim 7, further comprising

switching operation of the pusher to feed work pieces to the second machine.

9. The method of claim 7, further comprising
entering the length of the work piece into the computer prior to the driving step.

5 10. The method of claim 7, wherein the computer is programmed to optimize
cutting of stock to satisfy a cut list, the method further comprising
automatically calculating a plan for optimal cutting of the work piece to fulfill cut
list requirements.

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11. The method of claim 10, further comprising
executing the plan including automatically pushing the work piece toward the saw,
and cutting the work piece into one or more cut list parts.

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12. The method of claim 7, further comprising a step selected from the
following group: cutting, boring, punching, routing, mortising, sanding, drilling,
shearing, and bonding.